

### **REMARKS**

In the Office Action, claims 1-21 were rejected. By the present response, claims 1, 7, 8, 14, 19 and 21 are amended and claims 3, 9 and 18 are cancelled. Claim 8 has been amended to correct informality in the recitation of dependency. Upon entry of the amendments, claims 1, 2, 4-8, 10-17 and 19-21 will remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

### **Rejections Under 35 U.S.C. § 102**

In the Office Action, claims 14-17 were rejected under 35 U.S.C. § 102(b) as being anticipated by Carlson et al., U.S. Patent No. 4,577,340 (hereinafter "Carlson '340"). Claims 19 and 21 were rejected under 35 U.S.C. § 102(e) as being anticipated by McCarthy, JR., U.S. Patent Application No. 2004/0109538 (hereinafter "McCarthy"). A *prima facie* case of anticipation under 35 U.S.C. § 102 requires a showing that each limitation of a claim is found in a single reference, practice or device. *In re Donohue*, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985).

### **Claims 14-17**

Applicants respectfully assert that the present invention, as recited in amended independent claim 14 is patentable over the Carlson '340 reference. Independent claim 14 is amended to include the recitations of claim 18 and to more clearly point out certain aspects of the claimed subject matter. Specifically, the independent claim 14 now recites *at least two duplex bearing assemblies that straddle the target*. Claim 18 has been cancelled by the present response.

The Carlson '340 reference fails to disclose at least two duplex bearing assemblies that straddle the target as presently claimed. Instead the Carlson '340 reference appears to disclose two duplex bearing assemblies (78) that are on the same side of the target

(43). *See* Carlson '340, Fig. 1. Therefore, the Carlson '340 reference cannot support a *prima facie* case of anticipation of claim 14. Claims 15-17 depend directly or indirectly from claim 14. Accordingly, the Applicants submit that claims 15-17 are allowable by virtue of their dependency from an allowable base claim. Applicants also submit that the dependent claims are further allowable by virtue of the subject matter they separately recite. Thus, it is respectfully requested that the rejection of claim 14-17 under 35 U.S.C. §102(b) be withdrawn.

#### Claims 19 and 21

With regard to claims 19 and 21, Applicants respectfully assert that the present invention, as recited in amended independent claims 19 and 21 are patentable over the McCarthy reference. Independent claims 19 and 21 are amended to more clearly point out certain aspects of the claimed subject matter. Specifically, the independent claims 19 and 21 now recite *rotating a gantry about a subject at greater than three rotations per second*.

The McCarthy reference fails to disclose rotational speed greater than three rotations per second. The rate of gantry rotation disclosed by McCarthy is in the range of 2-3 revolutions per second (*See*, Paragraph 27, lines 4-8). Since, McCarthy reference fails to disclose rotational speed greater than three rotations per second as claimed, the reference cannot support a *prima facie* case of anticipation of claims 19 and 21. Thus, it is respectfully requested that the rejection of claim 19 and 21 under 35 U.S.C. §102(e) be withdrawn.

#### Rejections Under 35 U.S.C. § 103

Claim 20 was rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy. Claims 1-2 and 4-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Carlson '340 in view of Chidester, U.S. Patent No. 6,819,741

(hereinafter "Chidester"). Claims 1, 3, 6-14 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Carlson et al., U.S. Patent No. 5,978,447 (hereinafter "Carlson '447") in view of Chidester and Carlson '340.

Claim 20

As discussed above, the McCarthy reference does not teach, suggest or disclose each and every aspect of Applicants recited invention as claimed in the amended independent claim 19. Claim 20 further recites rotating the gantry at approximately five rotations per second. The examiner acknowledges that McCarthy fails to teach a method of rotating the gantry at approximately five rotations per second. However, the Examiner argued that it would have been obvious to one skilled in the art at the time of the invention to rotate the gantry of McCarthy at approximately five rotations per second, since the faster rotational speed of the gantry would reduce scanning time. Applicants note, however, that the McCarthy reference does not appear to disclose a gantry capable of rotating at five rotations per second. Indeed, the detailed description of the McCarthy reference only discloses a gantry rotational velocity of 2-3 revolutions per second, as noted above. *See McCarthy*, paragraph 27, lines 4-8. As McCarthy has disclosed an exemplary *range* of revolutions per second, it is reasonable to assume that disclosed range is complete and constitutes the intended limit at which the McCarthy gantry is capable of rotating, else a broader range (such as 2-4 or 2-5 revolutions per second) would have been disclosed. That is, there is no reason for the McCarthy reference to disclose an *incomplete range* of intended or operational velocities. The fact that it would be convenient in this instance for the Examiner to rotate the gantry disclosed in the McCarthy reference at greater than the disclosed rotational velocity amounts to nothing more than impermissible hindsight analysis on the part of the Examiner, examining the cited reference in view of the presently recited subject matter. Indeed, the Examiner's reasoning provides for no limitations and, presumably, the Examiner could assert that the gantry of the McCarthy reference could be rotated at hundreds of revolutions per second

without having to substantiate such assertions. Instead, there is no indication that the gantry disclosed by the McCarthy reference is physically capable of rotating at velocities higher than those disclosed (see, for example, paragraphs 5-7 of the present application, discussing physical constraints on gantry rotational velocity), nor is there any rational basis to disregard the disclosed range of rotational velocity in the McCarthy reference as being incomplete or mere verbage. Furthermore, the Examiner does not provide any indication as to why, mechanically and/or physically, such high-speed operation is believed possible of the McCarthy gantry. Therefore, absent some indication that such rotational velocity is both possible and desirable in the context of the McCarthy reference, no *prima facie* case of obviousness is believed to exist with regard to claims 20. It is respectfully requested that the rejection of claim 20 under 35 U.S.C. §103(a) be withdrawn.

Claims 1, 2, 4, and 5

Applicants respectfully assert that the present invention, as recited in amended independent claim 1 is patentable over Carlson '340 in view of Chidester. Independent claim 1 is amended to include the recitations of claim 3 to more clearly point out certain aspects of the claimed subject matter. Specifically, the independent claim 1 now recites *the insulator and the motor rotor system being located on the same side of the target*. Claim 3 has been cancelled by the present response.

Upon review, neither the Carlson '340 or the Chidester reference appear to disclose that the insulator and the motor rotor system are on the same side of the target, as presently recited in amended independent claim 1. Furthermore, the Examiner did not maintain that the Carlson '340 in view of Chidester references disclosed such an arrangement. Therefore, no *prima facie* case of obviousness is believed to exist with regard to independent claim 1 as amended. Reconsideration of independent claim 1 and those claims depending therefrom is, therefore, respectfully requested.

Claims 1, 6-8, and 10-14

Applicants respectfully assert that the present invention, as recited in amended independent claims 1 and 7 is patentable over Carlson '447 in view of Chidester and Carlson '340. Independent claims 1 and 7 are amended to include the recitations of claims 3 and 9 respectively to more clearly point out certain aspects of the claimed subject matter. Specifically, the independent claims 1 and 7 now recites *the insulator and the motor rotor system being located on the same side of the target*. Claims 3 and 9 have been cancelled by the present response.

Further, Applicants respectfully assert that the present invention, as recited in amended independent claim 14 is patentable over Carlson '447 in view of Chidester and Carlson '340. Independent claim 14 is amended to include the recitations of claim 18 to more clearly point out certain aspects of the claimed subject matter. Specifically, the independent claim 14 now recites *at least two duplex bearing assemblies that straddle the target*. Claim 18 has been cancelled by the present response.

Carlson '340 fails to disclose, suggest or teach the insulator and the motor rotor system being located on the same side of the target. The Examiner cites Carlson '447 to obviate this deficiency in the teaching of Carlson '340. Similarly, Carlson '447 fails to disclose, suggest or teach two duplex bearing assemblies straddling the target. The Examiner cites Carlson '340 to obviate this deficiency in the teaching of Carlson '447. The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only

show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985).

With regard to claims 1, 7, and 14, the Examiner fails to supply sufficient reason as to why one skilled in the art would combine the two references to construct the X-ray tube or anode assembly as recited in the present claims. In particular, the Examiner states that it would be obvious to one skilled in the art to adapt the bearings of Carlson '447 with duplex bearings as taught by Carlson '340, since duplex bearing would improve durability. However, the passage referenced by the Examiner merely notes the usage of "[a] pair of high durability bearings 78." Carlson '340, col. 4, lines 58-61. There is no indication within the Carlson '340 reference that the "durability" of the bearings 78 is attributable to the dual nature of the bearings, the composition of the bearings, or to other factors. Indeed, the passage relied upon by the Examiner suggests that it is the use of *lubricants* with the bearings that assures long life. *See* Carlson '340, col. 4, lines 60-61 (stating "[bearings 78] are provided with conventional lubricants, assuring long life"). Therefore, there is no basis for combining the Carlson '447 and Carlson '340 references for the motivation of improving durability, as relied upon by the Examiner. Further, there is no suggestion in Carlson '340 that a duplex bearing would be needed or should be provided to withstand the high structural load at higher rotational speed of gantry (*See*, Column 4, lines 58-61, cited by the Examiner).

When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). One

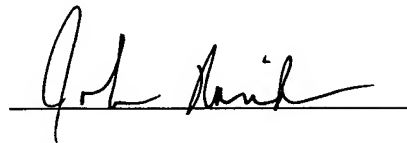
cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Applicant respectfully submits that neither Carlson reference suggests the combination relied upon by the Examiner or a motivation for such a combination. Accordingly, the applicants believe that the combination is not obvious to one skilled in the art and the Examiner is using hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

In view of the forgoing deficiencies in the teachings of the cited art, the Examiner has failed to establish a *prima facie* case of obviousness of claims 1, 7 and 14. These claims, and the claims depending therefrom, are therefore believed to be clearly patentable over the cited combination. Thus, it is respectfully requested that the rejections of claims 1, 2, 4-8, 10-14, and 20 under 35 U.S.C. §103(a) be withdrawn.

### **Conclusion**

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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